AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

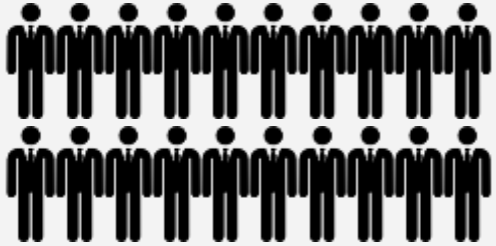
ECONOMICS

ENVIRONMENTAL IMPACT

EFFICIENCY

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA



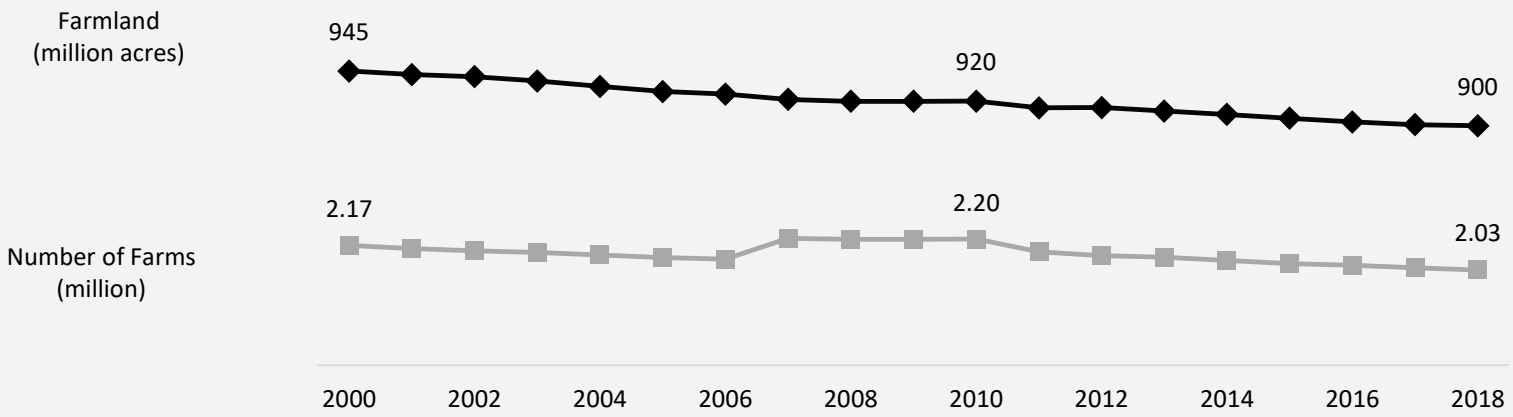
On-farm employment in the agriculture sector accounts for 2.6 million jobs in the U.S.

Bureau of Economic Analysis, 2018

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Number of Farms and Farmland in U.S. from 2000-2018



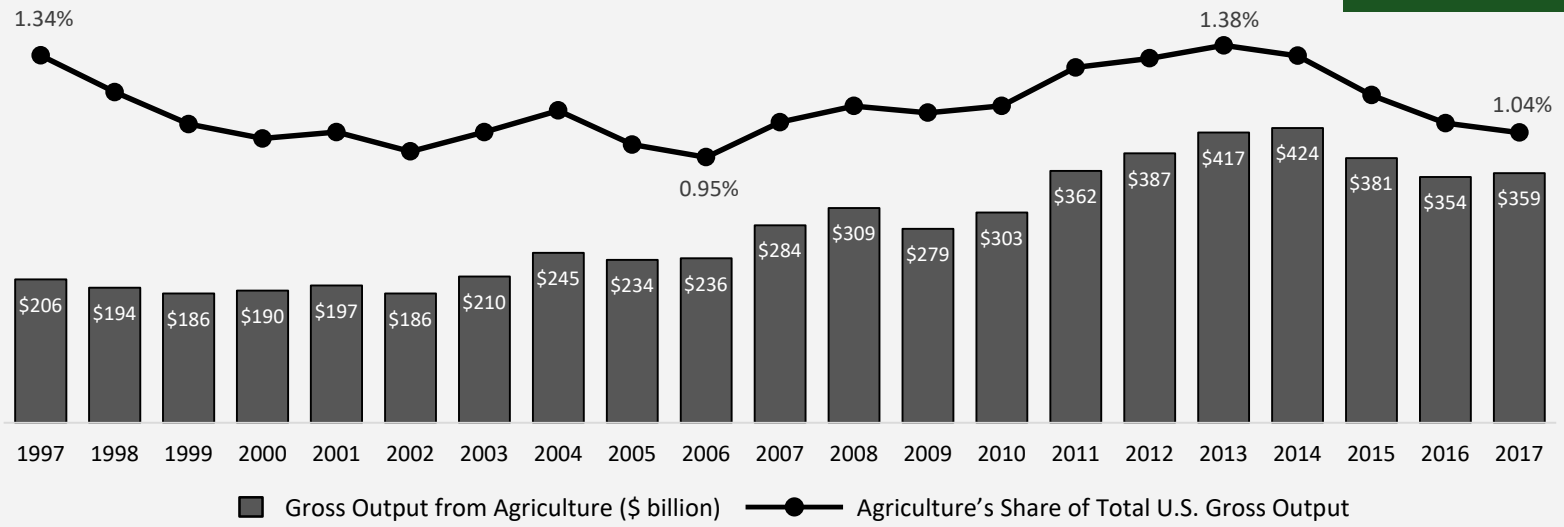
Between 2000 and 2018, the number of farms decreased from 2.17 million to 2.03 million, while farmland decreased from 945 million acres to 900 million acres.

USDA Economic Research Service, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Agricultural Share of U.S. Economy

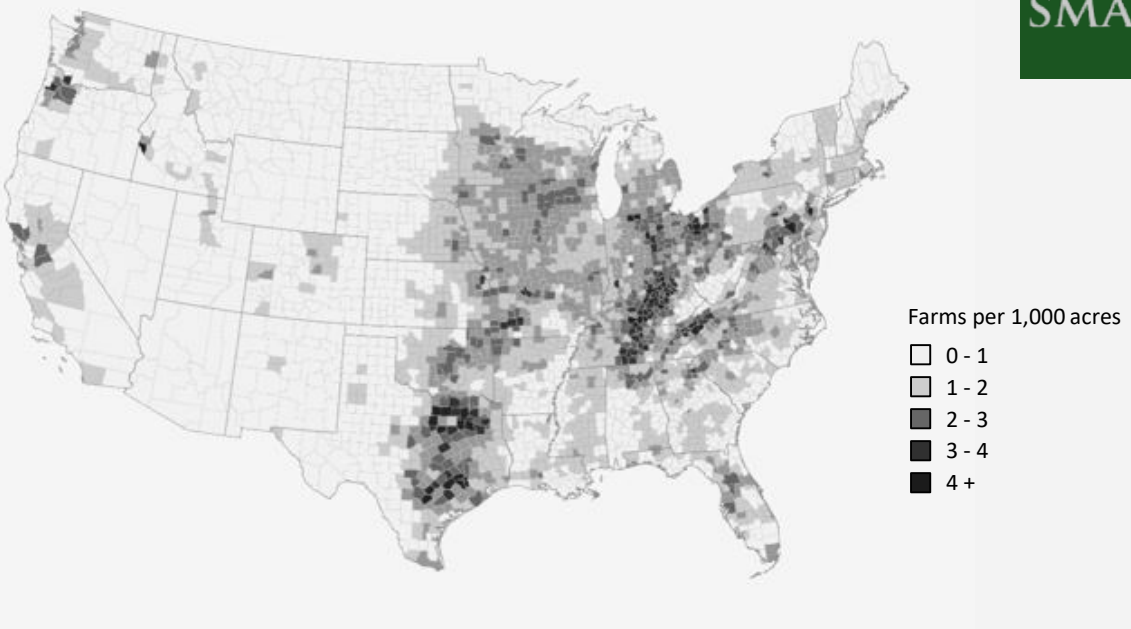


Between 1997 and 2017, the agriculture sector's gross output increased from $206 billion to $359 billion while its share of the U.S. economy stayed steady at approximately one percent.

Bureau of Economic Analysis, 2017

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA



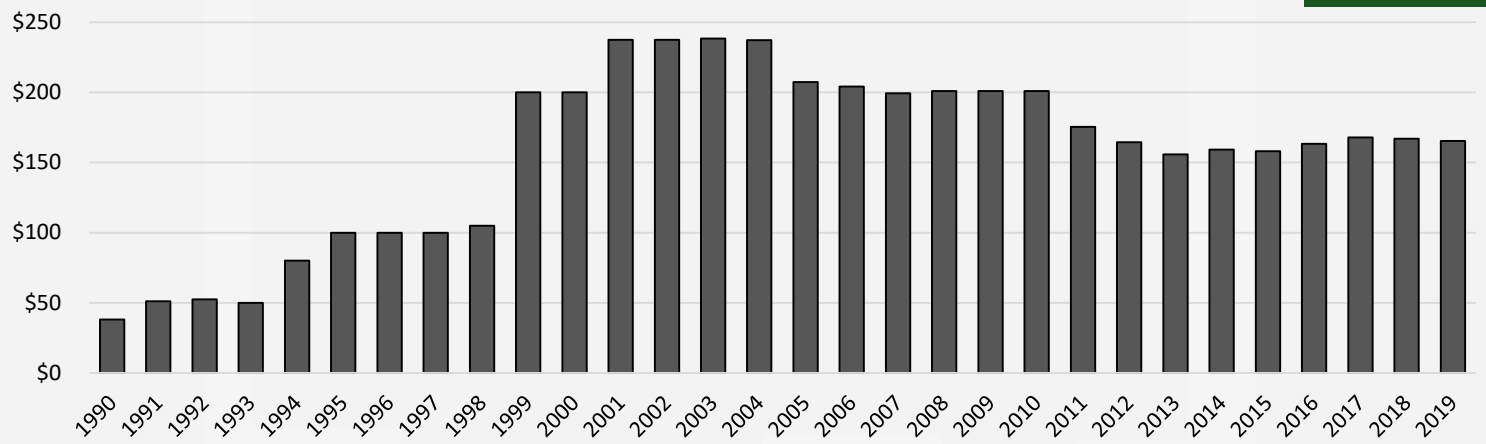
In 2017, the 2,042,220 farms in the U.S. accounted for roughly 40% of all contiguous U.S. land.

USDA Census of Agriculture, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Total §319 (Nonpoint Source Management Program) Funding per Year (in $ million)



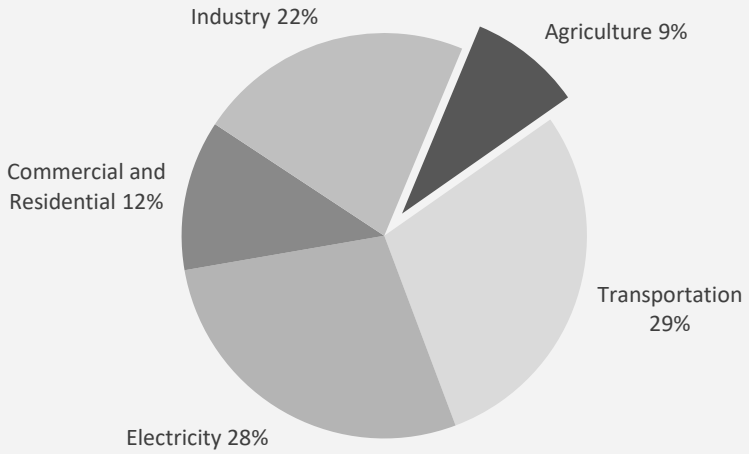
Of Clean Water Act §319 funds that go to watershed projects, 30-40% annually address agricultural sources. These funds often work in conjunction with USDA program funding to implement innovative best management practices.

U.S. EPA, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

2017 U.S. Greenhouse Gas Emissions by Economic Category



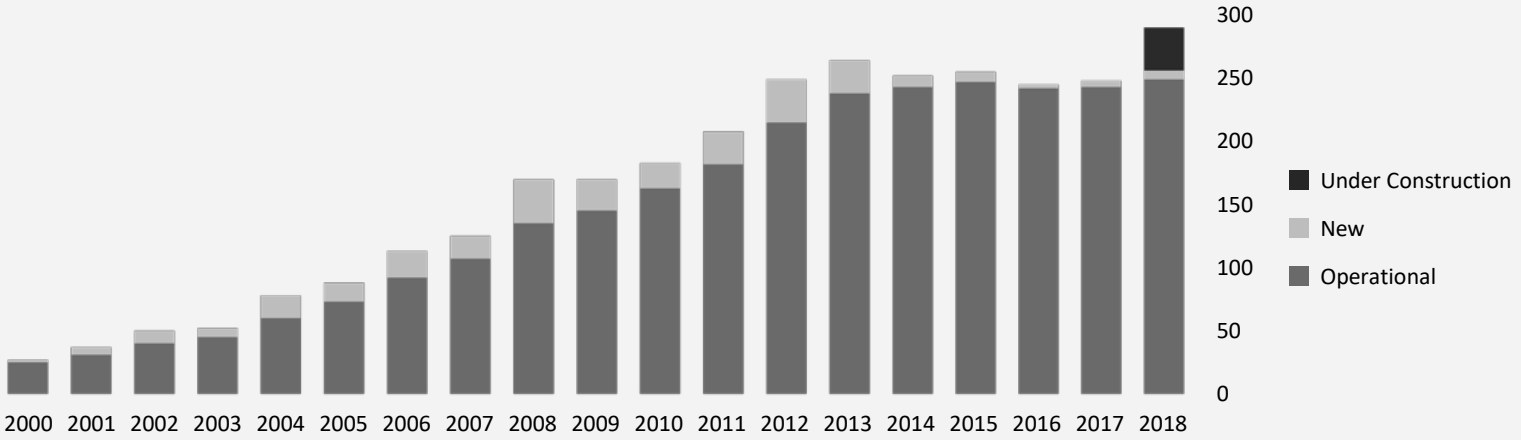
The agriculture sector was responsible for 9% of U.S. greenhouse gas emissions in 2017.

U.S. EPA, GHG Inventory 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Number of Anaerobic Digesters on U.S. Livestock Farms



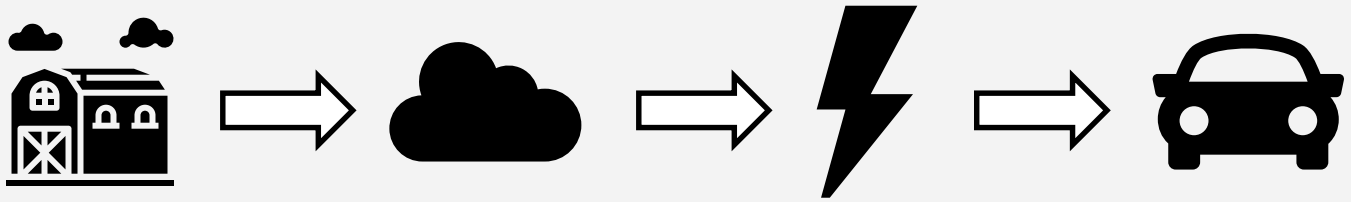
The number of anaerobic digesters on U.S. livestock farms has grown from 25 in 2000 to 248 in 2018, a 1,000% increase. These digesters use bacteria to break down organic matter such as manure without oxygen. As the bacteria "work," they generate biogas, a renewable energy source.

U.S. EPA, AgSTAR, 2018

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Potential for U.S. Farms to Turn Methane into Energy



8,100 Livestock Farms in the U.S.

Produce 186 billion ft^3 Methane Gas

Which could generate 15.8 million megawatt hours of energy per year through anaerobic digestion

Enough to power 3.5 million electric cars

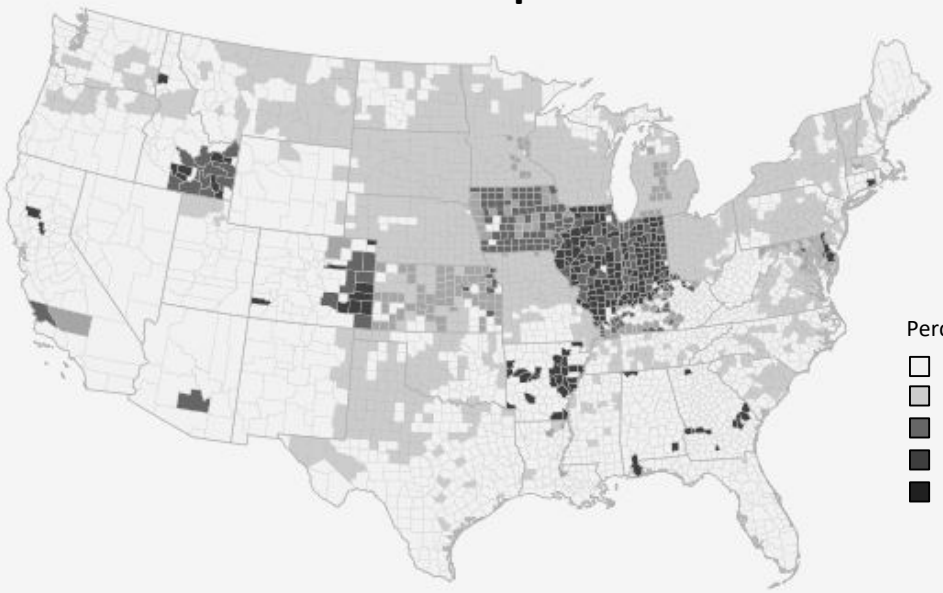
If all U.S. livestock farms had anaerobic digesters, they could collectively generate enough energy to power 3.5 million electric cars each year.

U.S. EPA, AgSTAR, 2018

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Cover Crops



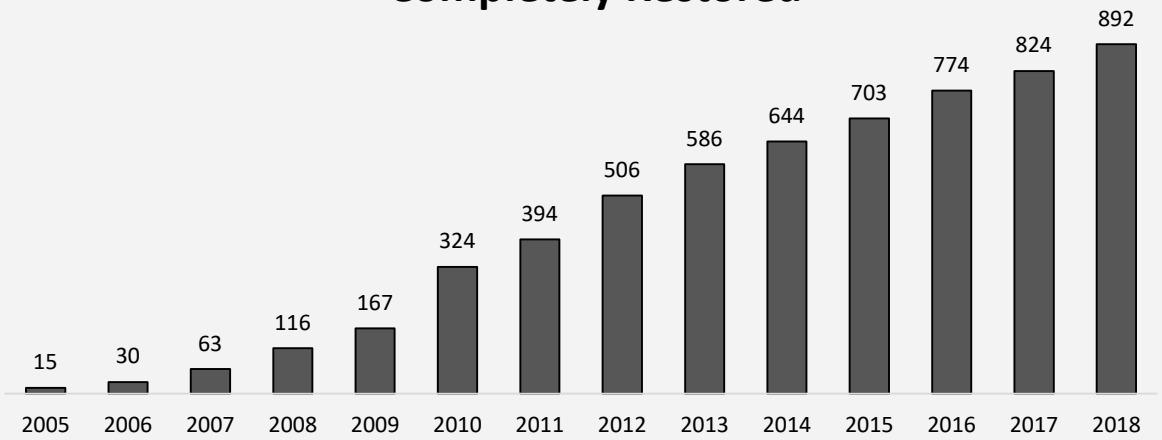
In 2019, there were 5.3 million planted acres of cover crops across the contiguous U.S. Cover crops reduce the need for fertilizer, and improve soil structure, moisture, and nutrient content.

USDA Farm Service Agency, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Number of Waterways Partially or Completely Restored



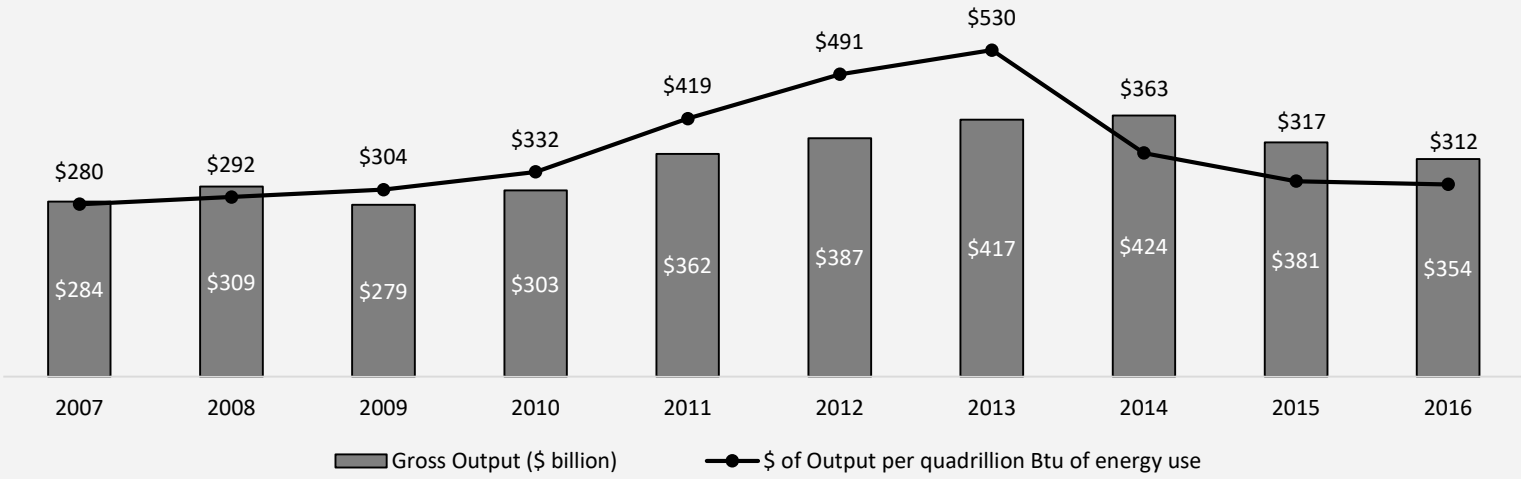
Restoration efforts to water bodies (largely from §319 grant funds) have led to a significant increase in documented water quality improvements across sectors.

U.S. EPA, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Agriculture Sector Output per Unit of Energy Consumed



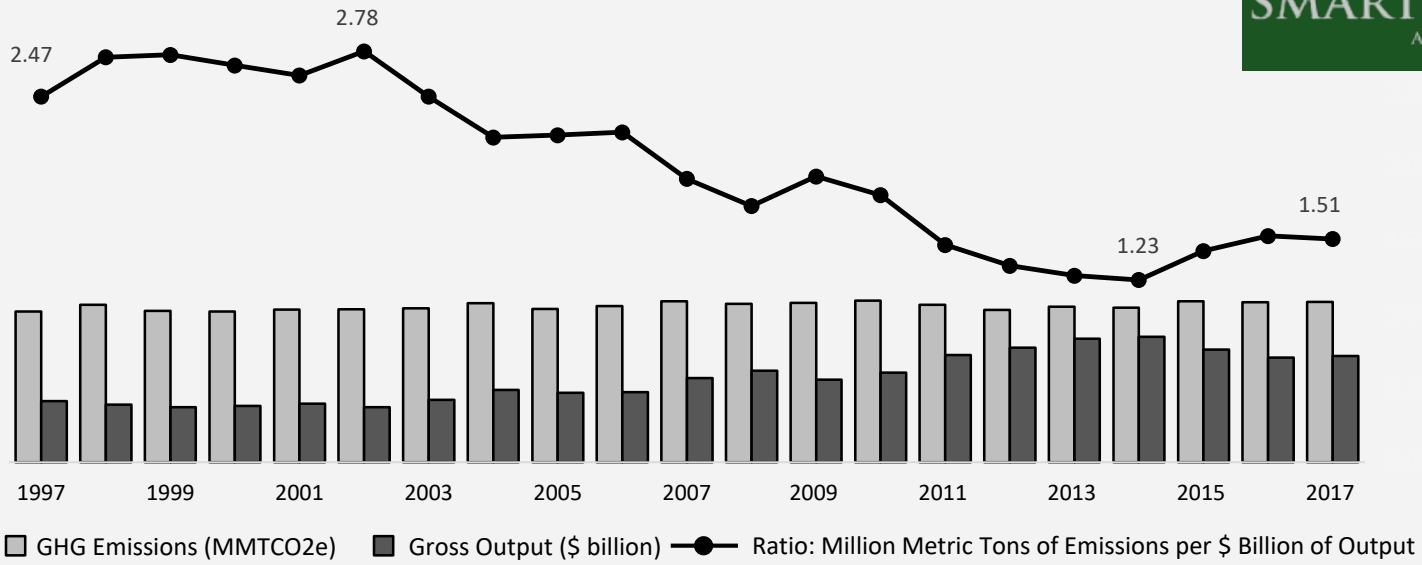
In 2016, the agriculture sector produced $354 billion of goods and used 1.13 quadrillion Btu of energy. Energy efficiency increased from $280 to $312 billion/quadrillion Btu between 2007 and 2016.

Bureau of Economic Analysis, 2017 | Energy Information Administration, 2018

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

Agriculture Sector GHG Emissions vs. Gross Output



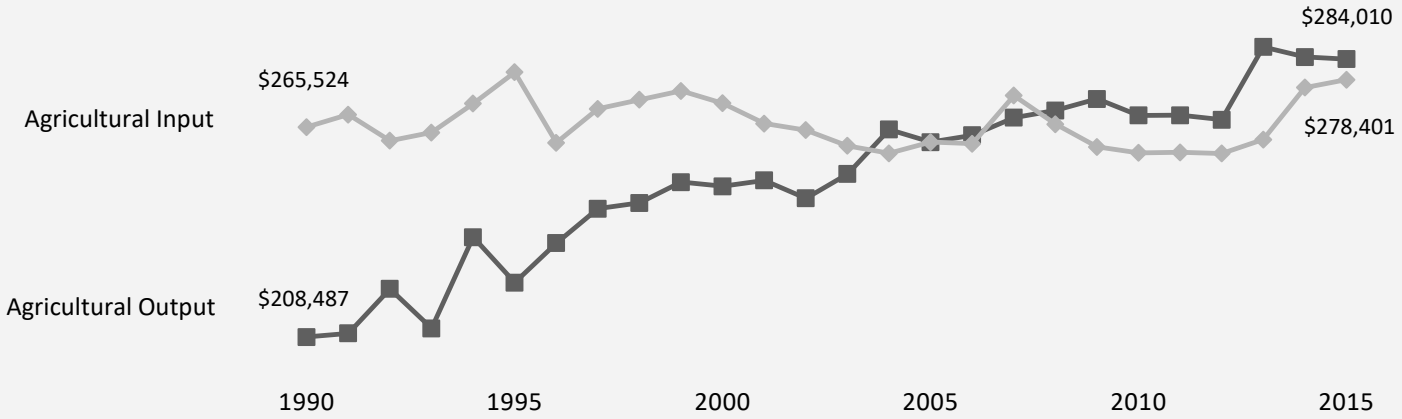
In 2017, GHG emissions from the agriculture sector were 542 MMTCO2e, while gross output was $359 billion. Between 1997 and 2017, the ratio of GHG emissions to gross output decreased from 2.47 to 1.51.

Bureau of Economic Analysis, 2017 | U.S. EPA, GHG Inventory, 2019

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

U.S. Farm Productivity Benchmarked with Resource Consumption ($ million 2005)



Since 2009, the value of agricultural output has consistently exceeded the value of agricultural inputs; the ratio of output value to input value has increased from 0.78 in 1990 to 1.02 in 2015.

USDA Economic Research Service, 2017

AGRICULTURE

SMART SECTORS
A PROGRAM OF U.S. EPA

The agriculture sector includes crop production (NAICS 111) and animal production and aquaculture (NAICS 112). Establishments in this sector are involved in the production of crops, animal husbandry, and the harvest of fish and other animals from farms or their natural habitats.

Companies classified into these NAICS range from large, multinational agriculture and produce corporations to small, individually owned or family-owned farms.

For more information about the EPA Smart Sectors program, visit: epa.gov/smartsectors.

For more information about the agriculture sector, visit:

- **U.S. EPA – Agriculture**
- **U.S. EPA - AgSTAR**
- **U.S. EPA – Nonpoint Source Program**
- **U.S. EPA – Greenhouse Gas Inventory**
- **U.S. Bureau of Labor Statistics – Agriculture Industry: Workforce Statistics**
- **U.S. Census Bureau, NAICS 111 and 112**
- **U.S. Department of Agriculture**